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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,375	10/07/2003	Hirohisa Ohta	Q77821	4285

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

BOES, TERENCE

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/679,375

Applicant(s)

OHTA ET AL.

Examiner

Terence Boes

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/07/03, 4/20/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

1. The drawings are objected to because the Motor Main Body (3) is now shown clearly. The examiner does understand to what structure reference character (3) is indicating in Figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- The recitation "...so that project..." (P1/Paragraph 2) is awkward and seems to be a grammatical error.
 - The term "bush" appearing in numerous instances throughout the disclosure, including the abstract, appears to be a grammatical or translation error of the term –bushing-
3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Neodymium magnets are not disclosed in the specification.

Appropriate correction is required.

Claim Objections

4. Claims 1-11 are objected to because of the following informalities:
- The term "bush" appearing in numerous instances throughout the claims appears to be a grammatical or translation error of the term –bushing.
 - The recitation "...magnets are prepared using..." appearing in the final line of claim 1 is objected to as this indicates a method constructing the apparatus rather than apparatus itself.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1,

The recitation "...relative to a motor central axis..." in lines 4-5 renders the claim indefinite as it is unclear as to how the first and second end of the casing are "relative" to a motor central axis. Does relative imply the position of the objects, the orientation of the objects, or are the objects related in some other way? How are the objects "relative" to each other?

Regarding claims 3 and 10

The recitation "...projecting outward from said exterior casing..." renders the claim indefinite, as it is unclear whether the "rotation regulating projection portion" or the "shaft" is projecting outward.

Regarding claim 7,

The recitation "...relative to said motor central axis..." in lines 19-20 renders the claim indefinite as it is unclear as to how the housing and casing are "relative" to said motor central axis. Does relative imply the position of the objects, the orientation of the objects, or are the objects related in some other way? How are the objects "relative" to each other?

The recitation "...relative to said direction of said motor central axis..." in line 31 renders the claim indefinite as it is unclear as to how the penetrating aperture or casing are "relative" to said motor central axis. Does relative imply the position of the objects, the orientation of the objects, or are the objects related in some other way? How are the objects "relative" to each other?

The recitation "...relative to said direction of said motor central axis..." in lines 34-35 renders the claim indefinite as it is unclear as to how the filter or casing are "relative" to said motor central axis. Does relative imply the position of the objects, the orientation of the objects, or are the objects related in some other way? How are the objects "relative" to each other?

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 6 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Neodymium magnets have not been disclosed in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. US 2002/0043880.

Suzuki et al disclose:

Re clm 1

- A stepping motor (figs 2A, 2B)
- Exterior casing (13) having a first end and a second end
- A motor central axis (axis extends through center of shaft 30)
- A stator (10)
- A rotor (20) rotatably disposed inside said stator around said motor central axis,
- Magnets (21) constituting magnetic poles

Examiners note regarding the recitation "...said rotor being constructed by...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113).

- Outer circumferential surface of a cylindrical bushing (56)

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- Shaft (30) having a first end and a second end
- Said second end projects outward from said exterior casing at a position of said motor central axis
- A housing (33) linked to said second end of said exterior casing
- Said housing accommodating a projecting portion of said shaft (30,60)
- A power conversion mechanism (31,30,23)
- An operating member (32) disposed outside said housing in said direction along said motor central axis

Examiners note regarding the recitation "...said magnets are prepared using rare earth magnets...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113). The examiner notes that rare earth magnets could be used to prepare or magnetize the magnets used in the apparatus.

Re clm 2

- An internal thread portion (52) is formed on an inner peripheral wall surface of said bushing (56)
- An external thread portion (60,30) on said first end of said shaft
- Said shaft is mounted to said bush (see fig 1B).

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Examiners note regarding the recitation "...by screwing said external thread...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113).

- Said second end of said shaft projects outward (see fig 1B, shaft projects from casing and is accommodated by said housing)

Re clm 3

- Said power conversion mechanism is provided with:
- Rotation regulating projection portion (31) projecting radially outward on a projecting portion of said shaft
- A guide groove (see figure 1A, guide groove is shown accommodating 31) disposed so as to extend along an inner wall surface of said housing such that a groove direction of said guide groove is aligned with said direction of said motor central axis
- Said rotation regulating projection portion fitting loosely into said guide groove (Paragraph 30 states that shaft 30 moves in an axial direction indicating that (31) fits "loosely").

Re clm 4

- Said second end of said shaft projects outward from said housing along said direction of said motor central axis.
- said operating member is mounted to a second end portion of said shaft (see Fig 1A).

Re clm 5

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- Said operating member is formed integrally on a tip portion of said shaft projecting outward from said housing (see figure 1A)

Examiners note regarding the recitation "...by injection molding...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113).

Re clm 6

Examiners note regarding the recitation "...said rare earth magnets are Neodymium bonded magnets...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113). The examiner notes that Neodymium bonded magnets could be used to prepare, or magnetize, the magnets used in the apparatus.

8. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto et al. USP 6,927,507 (published in May 2002, US 2002/00507051).

Hashimoto et al disclose:

Re clm 1

- A stepping motor (100)
- Exterior casing (2) having a first end and a second end
- A motor central axis (axis along shaft 4)
- A stator (5)
- A rotor (6) rotatably disposed inside said stator around said motor central axis,
- Magnets (11) constituting magnetic poles

Examiners note regarding the recitation "...said rotor being constructed by...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113).

- Outer circumferential surface of a cylindrical bushing (10)
- Shaft (4) having a first end and a second end
- Said second end projects outward from said exterior casing at a position of said motor central axis
- A housing (12) linked to said second end of said exterior casing
- Said housing accommodating a projecting portion of said shaft (4)
- A power conversion mechanism (20,20a,16,21)
- An operating member (22) disposed outside said housing in said direction along said motor central axis

Examiners note regarding the recitation "...said magnets are prepared using rare earth magnets...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113). The examiner notes that rare earth magnets could be used to prepare or magnetize the magnets used in the apparatus.

Examiners note regarding the recitation "...said rare earth magnets are Neodymium bonded magnets...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113). The examiner notes that Neodymium bonded magnets could be used to prepare, or magnetize, the magnets used in the apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 7, 10, and 11, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. US 2002/0043880 in view of Jenkin USP 3,639,791.

Re clm 7

- A stepping motor (figs 2A, 2B)
- Exterior casing (13) having a first end and a second end
- A motor central axis (axis extends through center of shaft 30)
- A stator (10)
- A rotor (20) rotatably disposed inside said stator around said motor central axis,
- Magnets (21) constituting magnetic poles

Examiners note regarding the recitation "...said rotor being constructed by...": product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113).

- Outer circumferential surface of a cylindrical bushing (56)
- An internal thread portion (52) on an inner peripheral wall surface of said bushing
- Shaft (30) having a first end and a second end
- Said second end projects outward from said exterior casing at a position of said motor central axis
- A housing (33) linked to said second end of said exterior casing
- Said housing accommodating a projecting portion of said shaft (30,60)
- A power conversion mechanism (31,30,23)
- An operating member (32) mounted to a second end portion of said shaft projecting outward from said housing.

The examiner considers this structure capable of operating a transmission control valve.

Suzuki does not disclose a penetrating aperture is disposed through a first end of said exterior casing so as to communicate between interior portion of said bushing and an exterior portion of said exterior casing, nor does he disclose a filter disposed so as to cover said penetrating aperture from said second end of said exterior casing.

Jenkin teaches a penetrating aperture (36) is disposed through a first end of said exterior casing so as to communicate between interior portion of said bushing and an

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exterior portion of said exterior casing, and a filter (38) disposed so as to cover said penetrating aperture from said second end of said exterior casing for the purpose of circulating fluid, providing a communicating fluid flow path with a filter, and filtering contaminants from fluid to provide for smooth operation and extended life.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Suzuki and a penetrating aperture with a filter, as taught by Jenkin, for the purpose of circulating fluid, providing a communicating fluid flow path with a filter, and filtering contaminants from fluid to provide for smooth operation and extended life.

Re clm 10

- Rotation regulating projection portion (31) projecting radially outward on a projecting portion of said shaft projecting outward from said exterior casing
- A guide groove (see figure 1A, guide groove is shown accommodating 31) disposed so as to extend along an inner wall surface of said housing such that a groove direction of said guide groove is aligned with said direction of said motor central axis
- Said rotation regulating projection portion fitting loosely into said guide groove (Paragraph 30 states that shaft 30 moves in an axial direction indicating that (31) fits "loosely").

Re clm 11

- Said operating member is formed integrally on a tip portion of said shaft projecting outward from said housing (see figure 1A)

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10. Claims 8 and 9, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. US 2002/0043880 in view of Jenkin USP 3,639,791 and further in view of Scott US 2002/0063492.

Suzuki discloses all of the subject matter as discussed above. Suzuki does not disclose Neodymium rare-earth magnets.

Scott teaches Neodymium rare-earth magnets for the purpose of providing adequate flux density (P1/Paragraphs 5-6)

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Suzuki and provide Neodymium rare-earth magnets, as taught by Scott, for the purpose of providing adequate flux density.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB
6/1/06



RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER